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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,177	08/28/2003	Tytus R. Bulicz	D5401	5954
30409	7590	04/10/2006	EXAMINER	
INTERNATIONAL ENGINE INTELLECTUAL PROPERTY COMPANY 4201 WINFIELD ROAD P.O. BOX 1488 WARRENVILLE, IL 60555			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/650,177

Applicant(s)

BULICZ ET AL.

Examiner

Thai-Ba Trieu

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12, 13, and 15 is/are rejected.
- 7) ☒ Claim(s) 5, 11 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/28/03&amp;6/21/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “the throttle valve is placed in the undercarriage outside and reward of the engine compartment” (See Claims 13 ad 14) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

#### **1. IN THE ABSTRACT:**

Applicants are required to submit a substitute abstract to meet the requirement set forth below:

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

#### **2. IN THE SPECIFICATION:**

The disclosure is objected to because of the following informalities:

- On Page 2, Paragraph [0002], line 5, and Paragraph [0003], line 1, ***"U.S. Patent Number 6,442,217 to Cochran"*** should be replaced by – ***U.S. Patent Number 6,422,217 B1 to Feucht et al.--***, since the ***"U.S. Patent Number 6,442,217"*** relates to the digital communication receiver with digital, IF, I-Q balancer.

Appropriate correction is required.

***Claim Objections***

Claim 7 is objected to because of the following informalities:

- In claim 7, line 12, “**c) an EGR flow**” should be replaced by – **d) an EGR flow** – (for correcting typo error).

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Claims 1, 3-4, 6-7, 9-10, 12 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Gray, Jr. (Patent Number 6,651,432 B1).***

Regarding claim 1, 3, and 6, Gray discloses an engine system comprising:

an intake system through which charge air (via 11 to 21) enters combustion chambers to support combustion of fuel for running the engine (22);  
an exhaust system, including one or more exhaust gas treatment devices (51, 54), through which products of combustion pass from the combustion chambers to the surrounding atmosphere (via 15);

a turbocharger (19, 27) having a turbine (27) disposed in the exhaust system and a compressor (19) disposed in the intake system;

a throttle valve (12) disposed in the exhaust system downstream of both the one or more exhaust gas treatment devices (54, 51) and the turbine (27) for controlling engine back-pressure;

an EGR flow path (via 16) for recirculating exhaust gas from the exhaust system to the intake system, including an EGR valve (14) for controlling flow through the EGR flow path (18), wherein the EGR flow path (18) has a pierce point (via 16) to the exhaust system upstream of the throttle valve (12') and downstream of both the one or more exhaust gas treatment devices (54, 51) and the turbine (27); and

wherein EGR flow path (18) has a pierce point to the intake system upstream of the compressor (via 13) (See Figure 2);

in which one of the one or more exhaust gas treatment devices comprises a catalyzed diesel particulate filter (54, 41) (See Column 6, lines 54-56);

in which the throttle valve (12') and the EGR valve (14) are under control of an engine control system (26) via respective actuators for selectively restricting the respective valves to attain desired EGR flow through the EGR flow path (See Figure 2, Column 6, lines 59-67, and Column 7, lines 1-6).

**Regarding claim 7, 9, and 12,** Gray discloses a motor vehicle comprising:

an internal combustion engine for propelling the vehicle, including an intake system through which charge air (via 11 to 21) enters combustion chambers (22) to support combustion of fuel for running the engine and an exhaust system, including one or more exhaust gas treatment devices (54, 51), through which products of combustion pass from the combustion chambers to the surrounding atmosphere;

a turbocharger (19, 27) having a turbine (27) disposed in the exhaust system and a compressor (19) disposed in the intake system;

a throttle valve (12') disposed in the exhaust system downstream of both the one or more exhaust gas treatment devices (54, 51) and the turbine (27) for controlling engine back-pressure; and

an EGR flow path (via 16) for recirculating exhaust gas from the exhaust system to the intake system, including an EGR valve (14) for controlling flow through the EGR flow path, wherein the EGR flow path (via 16) has a pierce point to the exhaust system upstream of the throttle valve (12') and downstream of both the one or more exhaust gas treatment devices (54, 41) and the turbine (27), and a pierce point (via 13) to the intake system that is upstream of the compressor (19) (See Figure 2);

in which one of the one or more exhaust gas treatment devices (54, 51) comprises a catalyzed diesel particulate filter (See column 6, lines 54-56); and

in which the throttle valve (12') and the EGR valve (14) are under control of an engine control system (26) via respective actuators for selectively restricting the respective valves to attain desired EGR flow through the EGR flow path (See Figure 2, Column 6, lines 59-67, and Column 7, lines 1-6).

**Regarding claim 15**, the method as claimed would be inherent during the normal use and operation of Gray device as disclosed in the rejections of claims 1 and 7 set forth above.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (Patent Number 6,651,432 B1), in view of Kawasaki (Pub. Number US 2001/00477798 A1).***

Gray discloses the invention as recited above; however, Gray fails to disclose a muffler and its location being downstream of the throttle valve.

Kawasaki teaches that it is conventional in the internal combustion engine art having a exhaust gas recirculation system, to utilize a muffler (15), and the throttle valve

(21) being disposed upstream of the muffler (15) in the exhaust system (See Figures 1 and 6).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a muffler, and its location being downstream of the throttle valve in the exhaust system, to reduce the noise in the Gray device.

***Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (Patent Number 6,651,432 B1), in view of Gorel et al. (Patent Number 6,301,887 B1).***

Gray discloses the invention as recited above; and further discloses an EGR cooler (17) disposed in the EGR flow path (16); however, Gray fails to disclose the cooler position.

Gorel teaches that it is conventional in the turbocharged internal combustion engine art, to utilize an EGR cooler (55) disposed in the EGR flow path (50) between the EGR valve (54) and the pierce point (52) to the intake system (See Figure 1).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized an EGR cooler disposed in the EGR flow path between the EGR valve and the pierce point to the intake system, to provide an alternative design for the Gray EGR system in the turbocharged internal combustion engines.

***Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (Patent Number 6,651,432 B1), in view of Design choice.***

Gray discloses the invention as recited above, and further discloses the vehicle has an engine compartment at the front of the vehicle and an undercarriage extending rearward from the engine compartment, the engine is disposed in the engine compartment (the well-known components of an engine).

However, Gray fails to disclose the throttle valve being placed in the undercarriage outside and rearward of the engine compartment; and the throttle valve and the EGR valve being embodied in a device assembled into the vehicle as a unit placed in the undercarriage outside and rearward of the engine compartment.

One having an ordinary skill in the turbocharged internal combustion engine art, would have found the throttle valve being placed in the undercarriage outside and rearward of the engine compartment as a matter of design choice depending on the engine-design requirements. Moreover, there is nothing in the record which establishes that the claimed throttle valve being placed in the undercarriage outside and rearward of the engine compartment, presents a novel or unexpected result (See *In re Kuhle*, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

***Allowable Subject Matter***

Claims 5, 11, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

The IDS(s) (PTO-1449) filed on August 28, 2003 and June 21, 2004 have been considered. Each initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Brookshire et al. (US Patent Number 7,013,879 B2) disclose a dual and hybrid EGR systems for turbocharged internal combustion engines.

- Aberle (Pub. Number US 2006/0054148 A1) discloses exhaust gas recirculation means and process for operation of the exhaust gas recirculation means.

- Wimmer et al. (Pub. Number US 2006/0042245 A1) disclose an exhaust turbocharger.

- Liu et al. (US Patent Number 6,973,786 B1) disclose an emission reduction in a diesel engine by selective use of high-and-low pressure EGR loops.

- Arnold (US Patent Number 6,899,090 B2) discloses a dual path EGR system and methods.

- Ishikawa (Pub. Number US 2004/0093866 A1) discloses an EGR system for an internal combustion engine provided with a turbocharger.

- Yang (US Patent Number 6,675,579 B1) discloses an HCCI engine intake/exhaust systems for fast inlet temperature and pressure control with intake and pressure boosting.

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- Feucht et al. (US Patent Number 6,422,217 B1) disclose a back pressure valve drive EGR system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB  
March 23, 2006



Thai-Ba Trieu  
Primary Examiner  
Art Unit 3748